Energy in the European Green Deal: impacts and recommendations for MENA countries

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ABSTRACT
The European Union (EU) presented its new and ambitious programme at the end of 2019—the European Green Deal (EGD), which should align its economy to reach the goal of climate neutrality by 2050. A vital part of the deal aims for the energy sector within the leitmotif of supplying clean, affordable and secure energy. Because energy-related Greenhouse Gas (GHG) emissions accounted in 2020 for three-quarters of all GHG emissions of the EU, the most important pillar for the EGD to succeed is the energy sector. The deal does not function within a vacuum as it will impact other countries, including those with vast conventional energy resources and close ties to the EU, like nations from the region of the Middle East and North Africa (MENA). This article assesses the deal’s impacts on MENA countries and includes recommendations concerning various aspects of low-carbon transition that could be applied. The EGD programme will be used as a reference scenario for those recommendations because of its universal character.

1. INTRODUCTION
The European Union (EU) presented its new and ambitious programme at the end of 2019—the European Green Deal (EGD), which should align its economy to reach the goal of climate neutrality by 2050. A vital part of EGD concerns the energy sector within the leitmotif of supplying clean, affordable and secure energy. Because energy-related Greenhouse Gas (GHG) emissions accounted in 2020 for three-quarters of all GHG emissions of the EU,1 the most important pillar for the deal to succeed is the energy sector. Nevertheless, because of the significant width of the EGD programme, its impact on the energy sector comes from various dimensions. One of those is new (and strict) rules on sustainable finance (with detailed sustainability criteria that govern the admissibility of energy projects for funding).

The 2019 deal is not globally the first one,2 which is a clear sign of the universality of the EGD concept. Presentation of the idea of transforming the European economy towards carbon neutrality comes with the phenomenon that citizens tend to get interested in sustainability after meeting their economic aspirations. That is why,

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universal is also the human desire to pierce the current approach of keeping business-as-usual modus operandi with a green breakthrough. The EGD contains a developed social dimension to accommodate those desires and ‘to leave no one behind’.\(^3\) Mitigating and managing the social effects and impact of transition towards a carbon-neutral economy is crucial because even the best concepts and most modern technologies will not be implemented without wide social backing. Because of those social foundations, EGD offers answers to global challenges, and the EGD programme itself accumulates universal social desires, ambitions and expectations.

The deal does not function within a vacuum. The EGD programme will impact other countries, including those with vast conventional energy resources and close ties to the EU, like nations from the region of the Middle East and North Africa (MENA). This article will, thus, after a short introduction to how the EGD deals with energy, contain an assessment of the impacts of the EGD on the MENA countries. It will also include recommendations concerning various aspects of low-carbon transition that could be applied to these nations. The EGD programme will be used as a reference scenario for those recommendations because of its universal character.

2. SETTING THE SCENE FOR THE EGD

Presenting the EGD should start with understanding where it comes from. Seven main reasons (drivers) for adopting the EGD can be reconstructed [and not all of them were the European Commission (EC) eager to mention\(^4\)]. The first reason is climate change and the rapidly increasing number of everyday circumstantial pieces of evidence that a global warming catastrophe\(^5\) along its consequences\(^6\) are not incoming but that they are starting to pop up with increasing intensity.\(^7\) The second motive is the international commitments of the EU—EC mentioned\(^8\) only the United Nation’s 2030 Agenda and its Sustainable Development Goals,\(^9\) but those commitments are much bigger.\(^10\) The third cause was the publication of the special report by the Intergovernmental Panel on Climate Change (IPCC) on the impacts of global warming of 1.5°C above pre-industrial levels.\(^11\) Although the publication itself was not that surprising, because already the Paris Conference of the Parties (COP) to the 1992 United Nations Framework Convention on Climate Change asked IPCC to prepare that special report,\(^12\) the findings were really strong along with desired emission

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\(^3\) Communication from the European Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions COM(2019) 640 final The European Green Deal [2019] 16 (Communication The European Green Deal).

\(^4\) cf ibid 2–3.


\(^8\) cf Communication The European Green Deal (n 3) 3.


pathways to remain consistent with 1.5°C global warming. The fourth purpose was (and still is) the global ambitions of the EU to remain the leader in collective efforts under the climate policy. The fifth concerns the biodiversity losses. The sixth reason results from the ongoing struggle of the civil society that fights for more ambitions within climate policy at the EU level. The last reason seems to be the most important one. EGD is the effect of European youth that went to the streets in the movement of school strikes for climate (also known as the Fridays for Future movement). As a result, EGD can be seen as a genuine attempt to ensure intergenerational solidarity and protect future generations’ rights. This generation that now holds power (together with predecessors—is also responsible for the environmental and climate disaster) has started to show some solidarity with the current European youth and future generations.

3. EUROPEAN GREEN DEAL

‘... resets the Commission’s commitment to tackling climate and environmental-related challenges that is this generation’s defining task.’ This opening paragraph suggests that a hard reset in EU’s climate and environmental policies comes with the EGD. This suggestion is false because the EGD does not come out of the bush. For over 15 years, the EU has already had precise GHG reduction targets with clear roadmaps leading to them. The previous GHG reduction target for 2050 was aimed at 80 per cent.

The deal is a ‘new growth strategy that aims to transform the EU into a ... resource-efficient ... economy where there are no net emissions of GHGs in 2050 and where economic growth is decoupled from resource use.’ Setting a perspective for 2050 is just the beginning. The long-term vision of reaching carbon neutrality in 2050 had to come along with setting new, higher mid-term goals already for 2030. Higher goals are in line with research findings that higher reduction targets are needed for 2030—to avoid putting too much pressure on the 2030–2050 period.

13 Myles Allen and others, ‘Summary for Policymakers’ in Masson-Delmotte and others (n 11).
14 Communication The European Green Deal (n 3) 2.
16 cf Ringel, Bruch and Knodt (n 2); Karlo Hainsch and others, Make the European Green Deal Real – Combining Climate Neutrality and Economic Recovery (Deutsches Institut für Wirtschaftsforschung 2020) <https://www.econstor.eu/handle/10419/222849> accessed 3 July 2022.
20 Communication The European Green Deal (n 3) 2.
22 Communication The European Green Deal (n 3) 2.
23 Fleming and Mauger (n 21).
Operationalization of the EGD came within the so-called ‘Fit for 55 Package’. The name of this policy and legislative package refers to the Nationally Determined Contribution of the EU (under the Paris Agreement) to reduce net emissions by at least 55 per cent by 2030 (compared to 1990). For the energy sector, this Package contains a lengthy list of changes (proposals are still negotiated), and few of them are worth naming. First, the Package increases the overall binding target of renewables in the EU energy mix to at least 40 per cent (from the current 32 per cent). Secondly, it confirmed that the EU Emissions Trading System (ETS) remains the basic tool for emissions reduction. Sectors covered by the EU ETS (mostly the energy sector and a few other energy-intensive sectors) will realize a GHG emission reduction of 61 per cent. Thirdly, the EU agreed upon a binding target of reducing 36 per cent of final energy consumption (and 39 per cent of primary energy consumption). This means that its energy consumption in 2030 should be no more than 787 million tonnes of oil equivalent (Mtoe) and no more than 1023 Mtoe for primary energy consumption (in comparison to 864 Mtoe of final energy consumption and 1124 Mtoe of primary energy consumption in 2020). This means a reduction of 9 per cent (at the EU level) in 2030 compared to projections for 2020. Fourthly, the most viral arrangement was the introduction (already from 2035) of an EU-wide 100 per cent GHG reduction for new cars and vans.

Comments on the origins of EGD refer to the climate disaster by reminding us that one should not waste a good crisis. However, since 2019 foundations of EGD have already been shaken twice, and as a result, its programme evolved along with two further crises and tested new waters. The first one was the COVID-19 pandemic. The second came with the Russian aggression on Ukraine. Interestingly those challenges only strengthened the EDG. As a reaction to the COVID-19 pandemic, the EU created already in 2020 a 750 billion Euro recovery fund (NextGenerationEU)—and according to a political agreement, Member States should devote at least 37 per cent of those funds to green transition. Most significant changes were introduced to the EGD in reaction to the war in Europe (so far, two major instruments have been proposed). In May 2022, European Communication presented ‘REPowerEU: A plan to rapidly reduce dependence on Russian fossil fuels and fast forward the green transition’ (REPowerEU).
REPowerEU is a full implementation of the ‘Fit for 55 Package’. Additionally, the binding reduction target for 2030 of final energy consumption should be increased to 13 per cent (from 9 per cent proposed by the ‘Fit for 55 Package’)—this would result in 712 Mtoe of energy consumption in 2030 (instead of 748 Mtoe). Further 5 per cent of (voluntary) energy savings could result from the implementation of the nine-step plan ‘Playing my part. How to save money, reduce reliance on Russian energy, support Ukraine and help the planet’ that the International Energy Agency prepared in cooperation with the EC. Savings are estimated at ca 13 billion gas cubic meters and ca 16 Mtoe for oil per annum. Another big change that REPowerEU brings is a proposal to increase the EU binding target for Renewables to 45 per cent in 2030 (up from 40 per cent proposed by the ‘Fit for 55 Package’). The EC proposed another instrument already in July: ‘Save gas for a safe winter’ along with ‘Proposal for a Council Regulation on coordinated demand reduction measures for gas.’ This plan is based on compulsory reductions in all EU Member States in the amount of 15 per cent consumption of natural gas (till the end of gas winter season 2022/2023). Finally, a master plan of generally voluntary reduction of 15 per cent consumption of natural gas within the same period was agreed upon.

Despite those new crises, the EGD was not sacrificed on the altar of energy security. Quite the contrary. Massive new investments into renewable energy sources are planned as the energy security will be secured with further reductions of dependence on imports because of vast increases in energy savings. This trend of increasing ambitions in energy efficiency and energy savings corresponds with fundamental and accurate critique of the original EGD: ‘As long as energy demand keeps going up, it is unlikely we will be able to roll out enough clean energy to cover it in the short time we have left.’ Only massive energy savings and increased energy efficiency increase probability that the EU reaches carbon neutrality and prevents from over-investments in new installed capacities in different energy sources. The EGD will have to be further appropriately modified by increasing targets in energy savings and increases in energy efficiency.

The original 2019-EGD concept was described as a ‘paradigm shift in the EU’s trilemma of security, sustainability, and affordability, with sustainability replacing security at the pinnacle.’ After three years and two crises, we returned to the point where security, sustainability and affordability seem equally important. Nevertheless, we can observe a post-EGD mindset in the EU—there is no attempt to get back to ‘cheap’ fossil fuels, but rather changes in the EU energy policy initiated with the EGD are only going further.
The current global energy crisis, with its surge in prices of all energy sources, starts to be compared with the oil crisis in the 70s, which led to an intense change in energy sectors of Western countries. One of those changes was the intensive development of the nuclear energy sector. In the context of the EGD, it must be noted that reforms to the EGD brings along milder future shocks to similar events due to reducing dependence on the imports of fossil fuels and fluctuations in their prices. All the stakeholders have identified this; that is why EGD is not contested. A similar path to the consequences of the oil crisis in the 70s will also be observed nowadays—noticeable development in some jurisdictions of the nuclear energy sector (but not that spectacular as 50 years ago). However, developments will concern not only big nuclear reactors, but also Micro- and Small Modular Reactors (MMRs and SMRs), and at some point in time also High-Temperature Reactors. The intensiveness of developing new nuclear projects hinges upon keeping nuclear energy within the scope of the EU Taxonomy Regulation—the proposal to enable (for a limited period of time) investments within sustainable finance also into the new nuclear reactors is controversial.

4. SUSTAINABILITY VS EGD

The true nature of the EGD is exposed once one checks (classifies) EGD towards sustainability. The results of this classification are not that obvious because the deal covers a wide array of areas with a bundle of sub-programmes. Let us start with the concept of sustainability. There is no one and universal understanding of sustainability. It is commonly associated with the concept of sustainable development that, in 2015 found a commonly binding legal basis when the General Assembly of the United Nations adopted the so-called Sustainable Development Goals. However, there is a palette of different ‘versions’ (shades) of sustainability. Each of those ‘versions’ of sustainability differs on the basis amount of ambitions towards introducing environment-oriented changes. Those different ‘versions’ (shades) become visible once we compare the relationship between environmental protection, economic growth, and social objectives, as illustrated in the graph below (Figure 1).

This graph is essential to grasp the nature of the EGD, because it generally represents... the ‘green growth’ concept. The EC stated that ‘[t]he European Green Deal is a... new growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use. ... This upfront investment is also an opportunity to put Europe firmly on a new path of sustainable and inclusive growth (emphasis added). Economic growth is essential for the green growth concept, but it bases on separating (decoupling) the annual growth of Gross Domestic

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56 This graph as well as classification are based on a review presented in Sebastiano Sabato and Matteo Mandelli, ‘The EU’s Potential for Promoting an Eco-Social Agenda Report Prepared for the Project “Sustainable Welfare Societies: Assessing Linkages between Social and Environmental Policies” NOVA Norwegian Social Research’ (European Social Observatory 2018).

Production (GDP) from the use of resources and GHG emissions. This requires massive amounts of low-carbon energy. It must be noted that the green growth concept is promoted by many international organizations, including the Organisation for Economic Co-operation and Development (OECD), the World Bank, United Nations Environmental Programme (UNEP), and the EU. However, the green growth concept is not ambitious at all as it puts a high interest in keeping a healthy GDP growth. As a result, the EGD can be perceived as a programme of massive public investments in the energy infrastructure (mostly renewable energy generating units, but also transmission networks, storage capacity or backup generating units). Summing up, the EGD programme’s expectations for ambitious ecological transformation are not met. Nevertheless, EGD is still much better than keeping the business-as-usual approach that even faster leads to the climate change catastrophe. However, after upgrading EGD (with the initiatives REPowerEU, ‘Save Gas for Safe Winter’ or ‘Playing my part. How to save money, reduce reliance on Russian energy, support Ukraine and help the planet’), achieving bigger reductions seems more probable—in the case if those additional plans will be over-delivered, then the whole transition towards carbon neutrality might be real.

That the original content of the EGD is not ambitious, enough does not mean that the next generation will not be able to introduce on the basis of EGD further increases in GHG reductions. But one (new) thing is certainly there—EGD bases on (subconscious) building of a new European identity: ‘To be European is to be carbon neutral.’

5. ROLE OF THE EU AS A GLOBAL LEADER

EU has become and remains a global trendsetter. That has been the case for decades, with various areas—environmental protection, especially regarding climate policy—seem the best examples. Another evident area is personal rights protection with the introduction of the General Data Protection Regulation—despite

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61 For a totally different assessment—cf Lee-Makiyama (n 24) 10.

62 Similarly Dunlap and Laratte (n 50) 4.

63 Lee-Makiyama (n 24) 4.


other jurisdictions initial resistance to introducing such a strict regime, it has become a benchmark regulation.\(^{67}\) New areas for which the EU is in the pole position to become a trendsetter result are directly connected with the EGD. First of them will be the still nascent hydrogen market.\(^{68}\) Another new area could be taxing carbon on the border (Carbon Border Adjustment Mechanism). Similarly, the EU is on track to set standards for the sustainable finance area—not only with green bonds,\(^{69}\) but with the highly-ambitious attempt to establish a common green taxonomy to assess whether particular investments are sustainable (or not).\(^{70}\)

For those reasons, MENA countries should pay close attention to regulatory and policy developments within the EU that concern the EGD (not only within the areas strictly connected with energy). Based on the current developments taking place in the EU within EGD, some recommendations for MENA countries in the next section will be reconstructed with a particular focus on energy issues.

### 6. RECOMMENDATIONS FOR MENA COUNTRIES

The EGD seems to pose a deep pool full of ideas that the MENA countries might want to consider and modify to fit them into the reality of their economies and implement them.

Many MENA countries heavily rely on the oil and gas industry. If other regions follow the EU and start a genuine transformation of their economies towards carbon neutrality, the oil and gas infrastructure in MENA countries will mostly become stranded assets. Dealing with lots of stranded assets from the hydrocarbon sector is an issue that the EU will have to start dealing with soon. An interesting solution poses further exploitation of the gas infrastructure, but in a way that it runs renewable gas or green hydrogen.\(^{71}\) Thus, producing locally and exporting renewable gas (or green hydrogen) on the basis of existing gas infrastructure could pose an option for MENA countries to minimize the problem of stranded assets within the gas sector. An interesting argument favouring future broad application of renewable gases comes with big storage capacities developed for natural gas that exists now in the EU (ca 1.200 TWh) and that could be filled with renewable gas.\(^{72}\) Another pro-argument is based on the high energy condensation of gas—when we compare (transboundary) electricity interconnectors with gas interconnectors, the latter enable several times bigger energy transfer.\(^{73}\) The potential of MENA countries as exporters of green hydrogen to the EU has even been recognized directly in REPowerEU.\(^{74}\) However, the scale of the potential success of this transition of becoming a big exporter of renewable gas and green hydrogen to the EU seems to be rather limited (from the European perspective). If MENA countries were to start producing renewable gas or green hydrogen, then in the first place, it should rather be deployed locally (for local consumption to lower the carbon footprint of MENA countries).
economies and to avoid GHG emissions from transport). Only excessive production of renewable gas or green hydrogen should be deemed for export—otherwise global GHGs do not sink (and we continue to do the current business as usual—investing only in Renewables capacities calculated relatively into energy mix instead of globally with the account to reducing global GHGs). For those reasons, it might become difficult from the ethical point of view for the EU to import those amounts of renewable gas and green hydrogen that are not excessive. Thus advertising those imported energy sources as renewable or green might even be tagged as greenwashing. However, CBAM measures and similar mechanisms are discussed also for agri-food sector (which is also a hydrocarbon-intensive sector). Although we (still) function now in a model of the economy, where energy sources (like coal, oil, gas) are transported through half of the globe (e.g. from Australia to Europe), this ‘development’ model is anachronic. We can observe that this anachronism is growing with the sliding date of ‘Earth Overshoot Day’, which in 2022 was on 28 July. Deploying renewables, combined with energy savings and increased energy efficiency, should allow obtaining energy security by maximum reductions of energy imports. However, developing (hypothetical) scenarios of massive imports of renewable gas or green hydrogen brings us back to the current model in which vast amounts of energy are wasted to transport energy sources through half of the globe. The need not to develop a model of importing renewable gas or green hydrogen from MENA countries to the EU becomes obvious once we analyse it from the energy security perspective. Massive deployment of production capacities (of renewable gas and green hydrogen) should be located within the territory of the EU. Only locally located production capacities guarantee the security of supply, and that no new abruptly developed policy and legislative frameworks will have to be developed (like REPowereU, ‘Save Gas for Safe Winter’ or ‘Playing my part. How to save money, reduce reliance on Russian energy, support Ukraine and help the planet’).

All countries exporting to the EU (including MENA countries) have to follow really close the subject of the carbon tax—which is planned in the form of Carbon Boarder Adjustment Mechanism (CBAM) on incoming goods. The EC mentions the introduction of CBAM only for selected sectors. But because detailed information regarding CBAM is provided in EC’s documents regarding energy, those sectors will most probably be energy and energy-intensive products. The introduction by the EU of a carbon tax will be a game-changer (especially if other OECD will follow the union). Although the World Trade Organization currently fights border taxes like carbon taxes, the introduction of CBAM seems inevitable. This is the case because the increasing reduction targets of climate policy burden competitiveness of the

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76 See further <www.overshootday.org> accessed 17 July 2022.

77 Communication The European Green Deal (n 3) 5.

78 Communication Fit for S5 (n 25) 7, 12.

79 However, CBAM measures and similar mechanisms are discussed also for agri-food sector (which is also a hydrocarbon-intensive sector). See Oleksandr Faichuk and others, ‘European Green Deal: Threats Assessment for Agri-Food Exporting Countries to the EU’ (2022) 14 Sustainability <https://doi.org/10.3390/su14073712> accessed 18 July 2022.

80 See further Lee-Makiyama (n 24) 6–7.
economy, due to carbon leakages outside the EU. Only a global climate policy with aligned GHG reduction targets and measures that protect against carbon leakage could prevent the introduction of CBAM.\textsuperscript{81} Despite potential repercussions and turbulences that might precede introducing CBAM,\textsuperscript{82} it is worth noting that some form of a sandbox tool for CBAM was proposed for the 7th Package of EU sanctions on the Russian Federation, ie introduction of tariffs on imports of crude oil. The mechanism of functioning of CBAM will be similar, so once those tariffs of Russian crude oil meet their aims, one needs to assume that introduction of CBAM will be much easier.

Another area for close observation by MENA countries are developments within finance. One of the fundamental components of the EGD is the new regulation on sustainable finance.\textsuperscript{83} Its direct aim is to streamline private capital into investments that align with reaching carbon-neutrality.\textsuperscript{84} The full introduction of a sustainable finance framework will result in declining financing (offered by financial institutions) going to investment projects that do not meet the sustainability criteria set in the green taxonomy standards.\textsuperscript{85} It is important to note that sustainability criteria do not only cover issues connected with reaching carbon-neutrality, but they, for example, enforce compliance with human rights and labour rights.\textsuperscript{86} One can assume that the immediate effect of a sustainable finance framework will be a scarcity of almost any financing available to investment projects that are not sustainable (ie according to EU Taxonomy criteria). Thus this framework will result in a rapid transformation of the whole EU economy as funds for new investment projects will be easily available mostly for projects compatible with the aim of climate neutrality (and that are sustainable). Rapidity of the transformation of the economy will be supported with record high prices of European Union Allowances (EUAs) observed in 2022 (and reforms introduced within the EGD ensure EUAs further provide strong signals). This new sustainable finance framework will have clear effects also for investment projects developed outside the EU. Funding for carbon-intensive investment projects outside the EU offered by European financial institutions will become scarce or not even be offered. The regulatory framework is not here the only reason for such an approach. Even before EGD, some financial institutions started to announce their pledges (eg to fully cut financing coal industry\textsuperscript{87}). What’s more, financial institutions operate in global capital groups—thus decisions taken for Europe might quickly spread and result in own internal commitments to cut funding for carbon-intensive projects globally. It is important to underline at this point that exposure to ongoing ‘traditional’ investments in carbon-intensive corporations (ie securities) will decrease. This will, for example, result in higher premiums in case of new bond issuances (or re-financing of existing ones). This (slowly accelerating) transformation of the whole financial sector will result in a dramatic drop in global funding opportunities for investment projects that are either not carbon-neutral or do not meet sustainability criteria.

Considering that buildings are responsible for 38 per cent of GHG emissions globally,\textsuperscript{88} it is not just the pure energy sector that MENA countries should concentrate upon. For the built environment, the

\begin{itemize}
  \item\textsuperscript{81} Similar meaning, but that was put in other words—see Communication Fit for 5S (n 25) 7.
  \item\textsuperscript{82} See further Leonard and others (n 68) 9–10.
  \item\textsuperscript{83} For a general overview—see Communication from the European Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions COM(2021) 390 final Strategy for Financing the Transition to a Sustainable Economy [2021].
  \item\textsuperscript{84} Rui Neves, ‘The EU Taxonomy Regulation and Its Implications for Companies’ in Michalis Mathioulakis (ed) Aspects of the Energy Union: Application and Effects of European Energy Policies in SE Europe and Eastern Mediterranean (Palgrave 2021) 249.
  \item\textsuperscript{86} Neves (n 84) 257.
  \item\textsuperscript{88} Charles Gillot, Buick Davison and Danielle Tingley, ‘Drivers, Barriers and Enablers: Construction Sector Views on Vertical Extensions’ (2022) Building Research & Information <https://doi.org/10.1080/09613218.2022.2087173> accessed 20 July 2022.
\end{itemize}
EGD offers a unique approach. This interesting dimension of EGD poses the New European Bauhaus (NEB) idea, which focuses on energy efficiency and the comfort of living. It is a concept of developing urban areas so that all needs are accessible within 15-minutes of a walk. This walking distance refers simultaneously to pre-modern times and to the organization of those cities that win every competition for the best city to live in (Vienna). Under the NEB, three dimensions play a key role in planning development—not only sustainability but also aesthetics and inclusion. This unconventional (for a public policy) mix of priorities suggests that NEB represents a sustainable development concept rather than green growth. For MENA countries, NEB could play a role in developing new areas to attract international attention to them, as well as to reduce energy usage and GHG emissions resulting from those areas.

Thanks to the EGD, MENA countries will be able to observe (in live feed) the social and economic aspects of transforming a big, industrialized economy that heavily relies on the energy sector into a carbon-neutral one. The EU will become a global reference point in regard to social and economic consequences of (relatively fast) decarbonization. The EGD was formed in a way to promote decarbonization. This promotion is aimed internally (for its own citizens—that they keep on supporting this effort), and externally to support global efforts in tackling climate change. However, the EGD sharpens climate policy goals, and this has consequences. Those higher GHG reduction targets increase the scale of the transformation of the economy and result in distributional effects that must be addressed. That is why the transition of the whole economy under EGD is to be ‘just and inclusive’.

Several appropriate instruments were developed under one framework entitled ‘Just Transition Mechanism’ (JTM). Whole JTM till 2030 is supposed to mobilize over 143 billion EUR of investments for just transition. The significance of allocating funding for just transition can be reconstructed from the circumstance that financing going through JTM amounts to 15 per cent of the whole investment plan till 2030 (which is based on mobilizing at least 1 trillion EUR of investments).

On the social dimension, it is expected that the Deal will bring a big reallocation of resources and redistribution of wealth. The scale and directions of this redistribution will be (partially) designed by described instruments. But final intensiveness (scale) and direction of this redistribution are not certain, but surely ensuring social and just inclusiveness along with addressing distributional effects of climate policies are deemed crucial for successful decarbonization. That is why, once the MENA countries start the transformation of their economies into low-carbon or carbon-neutral ones, it is essential that they develop structure in a way to ensure social inclusiveness. Using measures developed by the EGD seems to be an option.

Among many other social aspects and dilemmas around the EGD, there is one additional aspect to which attention of MENA countries should be devoted. One obvious question often gets omitted in all those discussions—whether the EU citizens also want a strategy in the form of the EGD. Stakeholders seem to base...
their actions on universal reasons, focusing on measures to adopt climate neutrality. However, gaining social acceptance (and keeping it) is crucial for the success of this economic transformation. The current positive development is that European youth massively prioritizes fighting climate change and protecting the environment. This also shows that acknowledging intergenerational solidarity and including protection of the rights of future generations in the current policies can receive social acceptance and support. Summing up this aspect of the EGD seems quite straightforward: if the MENA countries are to undertake any similar big transformation programme, securing social acceptance is crucial.

Another venue worth closely following is how the carbon-intensive energy companies cope with the transformation under the EGD themselves. Implementation of the EGD brings three losses for carbon-intensive energy companies. First, the business model they have developed and according to which they have operated up to now is bankrupt. Secondly, their competitive advantages are melting or have already vanished. Thirdly, carbon-intensive companies need to undertake investments into those business lines that will remain compliant with the long-term climate policy goals (that the EGD sharpened). At the same time, only those new business lines can count on competitive terms of funding offers from financial institutions (either at all or without any extra exorbitant premiums for carbon-intensive funding investments). In this regard, four path-breaking cases should be shortly introduced. The first case concerned a French energy company—GDF Suez—back then, the world’s biggest power producer by output. In order to keep up with the energy transition, GDF Suez evolved in 2015 into ENGIE. After selling parts of the business, the new entity was to concentrate on doubling installed capacity in Renewable sources and moving away from power plants run on fossil fuels. This was a move to react to record impairment losses for 2013 (14,9 billion Euros) that resulted in 9,7 billion Euros losses for accounting year 2013. This impairment was caused by a much lower valuation of gas-fired power plants. This accounting valuation of GDF Suez assets resulted in a deep reorientation of the company, which decided to align its investments and assets so that they are in line with the EU climate policy. The second case study concerns E.ON and RWE—Germany’s two biggest power companies. E.ON was split into two separate entities (capital groups): Uniper and E.ON, and undertook its operations from 1 January 2016. Uniper remained with conventional power generation (hydro, natural gas, coal, nuclear power) and global energy trading, while E.ON took the business lines of renewables, energy distribution networks and sales to end-consumers of energy. A similar approach was taken by RWE, which in 2016 established a spin-off company—Innogy, which took the assets of renewable energy sources, energy distribution grids, and retail sale of energy. Its IPO in 2016 was one of the biggest in Europe for years. Reasons for pushing forward with those radical changes in GDF Suez, E.ON and RWE were quite simple—focusing on prospective business lines (renewables, distribution of energy and its sales to end-consumers) due to being in line with climate policy. Third case-study concerns recent developments with EdF, the French state-

100 See Ringel, Bruch and Knodt (n 2).
101 Barry and Hoyne (n 7) 3–4.
105 ibid. See also Robert Rybski, German Radioactive Waste: Changes in Policy and Law (Routledge 2022) 60.
controlled energy company (84 per cent stake). After a 3 billion Euro capital increase\textsuperscript{108} at the beginning of 2022, it is on track for full nationalization.\textsuperscript{109} Also this plan is based on putting EdF’s renewables assets into a new, debt-free entity.\textsuperscript{110} Changes in the structure of shareholders are based on increasing investments of EdF into (new) nuclear reactors. Fourth case study concerns Polish attempt of creating a new energy company with assets of solely carbon-intensive power plants. This new state-controlled and state-owned entity will operate under the name of National Energy Security Agency (original: ‘Narodowa Agencja Bezpieczeństwa Narodowego’, NABE). It will start operations from 1 January 2023. NABE will integrate coal assets (hard coal and lignite power plants)—acquired through statutory nationalization (for appropriate remuneration). Its model is based on the ‘bank with toxic assets’ concept. This entity aims to clear books of remaining energy utilities from coal-fired power plants so that they start to be eligible for green financing from financial institutions. However, those power plants will still operate for some time as they currently ensure ca 60–70 per cent of the power. Those four case studies present diversified approaches of energy companies (and their state-owners) towards the EGD (and to climate policies that preceded EGD). It will be easy for external stakeholders to conclude based on the real-life cases of ups and downs of struggles of carbon-intensive European companies (including the aforementioned cases of three corporations). However, clarity of the situation disturbs some recent developments—the acquisition of Innogy by E.ON in 2020\textsuperscript{111} or the bail-out of Uniper in 2022.\textsuperscript{112}

Another area closely linked with the EGD—worth observing by MENA countries—concerns the quickly developing ‘green bonds’ market. Green bonds are ‘fixed-income debt securities issued (by governments, municipalities, multi-national banks or corporations) to raise the necessary capital for projects which contribute to a low carbon, climate resilient economy.’\textsuperscript{113} Currently, there are many different types of green bonds, but one thing remains common for them—no common regulatory framework that would prescribe what constitutes green bonds. As a result, any type of entity (eg all corporates) is entitled to issue green bonds (even if the nature of that entity is carbon-intensive). Currently, there is no policy or regulatory proposal to change that (issuer perspective). But this paradox is addressed through the EU Taxonomy Regulation framework (buyer perspective) because financial institutions are becoming limited in green bonds they can buy. This is one of the main reasons why energy companies in the EU started to divide themselves and separate high-carbon assets into separate entities (otherwise, financing for new projects might not be available to them). This trend shows few potential consequences. The EU is in the best position not only to become a global standard-setter in regard to green bonds,\textsuperscript{114} but to provide a vast pool of funding for issuances of green bonds. For that reason, entities from MENA countries (governments and corporate entities) could start issuing green bonds and find investors for those green bonds among European investors. Another way round—financial institutions from MENA countries willing to protect their assets from various risks arising from climate change could diversify their portfolios by investing in green bonds issued in EU markets (with a growing variety of issuers and instruments).


\textsuperscript{113} Raffaele Della Croce, Christopher Kaminker and Fiona Stewart, The Role of Pension Funds in Financing Green Growth Initiatives (OECD Publishing 2011) 16.

\textsuperscript{114} Similarly Leonard and others (n 68) 20.
Transformation towards a carbon-neutral economy results in substituting hydrocarbons with electrification.\textsuperscript{115} Although reaching anywhere close to 100 per cent of the electrification of the economy does not seem possible (or even desired), reaching 60 per cent seems real.\textsuperscript{116} This shows two interesting things. First, a reduction in the consumption of hydrocarbons by the EU will bring health benefits to the citizens.\textsuperscript{117} Secondly, this will generate enormous demand for green electricity (i.e., carbon-neutral power). MENA countries might become potential exporters of green electricity to the EU.\textsuperscript{118} But that scenario rather does not seem to be a viable one at all—because of four reasons. First, MENA countries should concentrate on developing carbon-neutral energy infrastructure to cover local energy consumption and lower local carbon footprint. This will enable to keep MENA countries’ carbon-competitiveness\textsuperscript{119} once carbon taxes are introduced. Secondly, exporting green electricity from a region with high carbon emissions is ecological wrong-doing that falls into greenwashing.\textsuperscript{120} Thirdly, the current post-pandemic nearshoring trend will also cover generating power (electricity). Fourthly, vast investments into renewables within the EU’s jurisdiction are undertaken to increase energy security and cut down energy imports. Relying on imports of power (even green power) undermines the fundamental notion of the EU energy policy that is based on the massive deployment of renewable energy. That is why imports of green electricity over big distances have never become a mainstream trend—like in the case of the Desertec Industrial Initiative.\textsuperscript{121} This should not change in the future because of those four presented reasons.

Another area that is worth following closely is development happening in the EU within the whisker of the EGD—further development of the nuclear energy sector. Within the next decade, it will occur, what are the costs of new nuclear installations in the EU—both for appliances in big-scale reactors as well as within MMRs and SMRs. This cost will have two dimensions. The first one concerns the level of traditional LCOE (levelized cost of electricity) from those installations. The second one will concern how competitive new nuclear installations are in decreasing GHG levels\textsuperscript{122} and how cost-effective they are in achieving the carbon-neutral status of the economy of the EU. Of course, the socio-political dimension of nuclear energy will remain relevant,\textsuperscript{123} especially in regard to the issue of nuclear waste.\textsuperscript{124}

The most heavy-weight recommendation was saved for the end. Analyses of the effects of the EGD strategy could (out of habit) concentrate on oil and gas markets. Such analyses could lead to the conclusion of


\textsuperscript{116} Levoyannis (n 17) 202.

\textsuperscript{117} See further ia: Michele Emiliano and others, ‘Health Benefits of Decarbonization: The Transition of Carbon Intensive Regions in the Frame of European Green Deal’ (2022) 14 The Lancet; Pineda (n 115) 251.

\textsuperscript{118} Identification of big potential—by Leonard and others (n 68) 5–6.

\textsuperscript{119} See data regarding carbon intensity of GDP—IEA (n 1) 57.

\textsuperscript{120} See further Nemes and others (n 75); Heras-Saizarbitoria, Boiral and Díaz de Junquiu (n 75); Pimonenko and others (n 75); Gatti, Seele and Rademacher (n 75); Seele and Gatti (n 75) 239; Bowen (n 75); Feinstein (n 75) 229; Lane (n 75); Gallicano (n 75) 1; Ramus and Montiel (n 75) 377.


\textsuperscript{124} See further Rybski (n 105).
severe disturbances that EGD will bring to the global oil market because the world’s second\textsuperscript{125} biggest importer of crude oil (the EU) is going to reduce its oil consumption solely for other than energy purposes. Whether this demand reduction will result in an oil price drop anticipated by some authors\textsuperscript{126} is not that obvious and is not that relevant. Other consequences for MENA countries could be easily overlooked. Global climate policy, which is gaining more momentum thanks to the EGD, brings along a phenomenon described as the ‘carbon bubble’. The essence of the ‘carbon bubble’ concept is simple—to achieve current GHG reduction targets, most reserves of fossil fuels should never get extracted and burned (if we were to burn them, we would go way beyond 2 grad Celsius).\textsuperscript{127} This results in a situation where almost all identified fossil fuel reserves pose solely worthless assets\textsuperscript{128} (risk for energy companies to be left with stranded assets). Although the ‘carbon bubble’ concept was criticized as a divestment strategy from the perspective of institutional investors,\textsuperscript{129} this concept precisely names two risks. The first risk concerns over-investments into fossil fuels extraction and infrastructure from the perspective of the whole economy. The second risk concerns energy companies and the scenario that those that do not diversify their activities’ portfolios will be left with stranded high-carbon assets. What’s more, coping with those risks is the starting point for the new EU framework of sustainable finance—which will shape investment and credit policies of European financial institutions in a short time. Out of those findings, appropriate conclusions can be drawn. Awareness awakes that apart from over-investments into carbon-intensive industries, we also cope with an enormous financing gap for investments into green infrastructure (mitigating climate change and adopting it). The EU needs almost 350 billion EUR of additional investments annually to meet its 2030 goals.\textsuperscript{130} At the global level, this investment gap is estimated at $380–680 trillion per annum for climate change mitigation, with a further $60–100 trillion investments into climate change adaptation annually.\textsuperscript{131} Obviously, there is not enough financing available (in the EU or globally) to be spent simultaneously on carbon-intensive projects and green infrastructure. The shift that the EU is currently undertaking in this regard originates from the international arrangements under Article 2 section 1 letter (c) of the Paris Agreement, according to which ‘This Agreement... aims to strengthen the global response to the threat of climate change... by:... making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.’ The EU sustainable finance law only operationalizes commitments under the Paris Agreement. This is why it will become a global standard—coming top-down as a reaction of governments to fulfil their obligations under the Paris Agreement and bottom-up from the financial industry to secure their assets. From those identified risks, one can draw straightforward conclusions. Identified risks concerning high-carbon sectors suggest that MENA countries follow the EU towards a carbon-neutral reality. Investing in low-carbon transition seems crucial for MENA countries because of reasons specific to MENA countries. Following a similar path of carbon-neutral transformation of MENA economies is an approach that supports

\textsuperscript{125} Leonard and others (n 68) 6.
\textsuperscript{126} ibid 6–7.
\textsuperscript{128} ibid.
\textsuperscript{130} European Commission, Commission Staff Working Document, SWD(2020) 176 final Impact Assessment Accompanying the document Communication from the European Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions Stepping up Europe’s 2030 climate ambition. Investing in a climate-neutral future for the benefit of our people [2020] 69.
new paths of development instead of rentierism.\textsuperscript{132} The EGD contains a clear investment plan that could overcome rentierism\textsuperscript{133} that is present in many MENA countries.

7. CONCLUSIONS

It is up to MENA countries whether they will follow the path that the EU undertook with adopting and implementing the EGD. Three strong circumstances speak in favour of taking this path. First, climate change is a universal challenge that needs to be tackled in a common effort. Secondly, the already mentioned carbon bubble theory puts the current economy model of MENA countries at high risk. Thirdly, the EGD follows the green growth concept, so its implementation brings a big change in the long-run perspective, but the modus operandi of the economy stays the same with big public investments that flow to deliberately chosen areas and technologies. Because of that, following the EGD approach will not bring socio-economic shocks but a rather smooth transition.

\textsuperscript{132} Escribano and Lazaro (n 71) 11.

\textsuperscript{133} See further Sameena Hameed, 'Political Economy of Rentierism in the Middle East and Disruptions from the Digital Space' (2020) 7 Contemporary Review of the Middle East S4.